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Cargo Boats of the East Coast of Malaya

By C. A. GIBSON-HILL, M.A.

(*Received, September* 1948)

There is no systematic account of the locally built boats in use on the coasts of the Malay Peninsula. The greater part of the published data occurs in a paper by H. Warington Smyth, in the Journal of the Society of Arts (1902: 570-586), but this author did not attempt a comprehensive survey, even for the period at which he was writing. In addition there is no doubt that a number of changes have occurred in the intervening years, and that more still will occur in the future. On both counts a catalogue of the designs extant now would be of value. Unfortunitely such a work is not as easy to compile as it might appear to be, and it will be some time before one can produce a complete descriptive list of the native boats found in Malayan waters. In the meantime, this paper has been prepared, largely on data collected in July 1940, June 1947 and July-August 1948, to provide an introductory catalogue of the carrying boats normally used on the east coast of the Peninsula, south of the Siamese frontier. The centre of building in this area is in Trengganu, principally in the kuala of the main river, and to a much smaller extent at other points along its seaboard. In some respects this paper should have been preceded by a survey of the local fishing boats, but the problems that they present are very much more complex, and the amount of data that can be acquired very much greater. One would also like to have been able to give the basic lines of the larger vessels discussed here, but local builders do not work to set designs, and accordingly this is not possible at present.

Sea transport is an extremely important feature of communications on the east coast of Malaya. A large proportion of the population is settled on or near the river mouths, and the road system is still poorly developed. Unfortunately natural conditions complicate it to some extent. The estuaries are in all cases relatively shallow, with at least the greater part of their exits blocked by sand-bars. The larger kualas have channels which, at or near high tide, afford passage-way to boats of draughts up to 8 or 9 feet, but the great majority of the inhabited estuaries are closed at all times to anything requiring more than 4 or 5 feet of water. Even in these cases some experience is needed to enter them. The bars and sand-banks often shift annually, and no printed sailing directions are of much value if there is any appreciable sea running. On my most recent visit we travelled from Mersing to Tumpat in a motor launch with a draught of just under 3 feet. It was piloted by a Trengganu Malay, who had been up and down the

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coast several times, and claimed to know it fairly well. Even then we were unable to get into several apparently patent estuaries, and we went aground at least once in over half the ones that we did enter. In consequence of this feature the coasting boats normally used are all of relatively shallow draught, and for the most part they run repeatedly over the same sections, with which their crews are thereby well acquainted. It is probable that this factor also has some influence on the sail plan adopted. All the local boats are driven by dipping lugs, which can be set and let down quickly.

Another problem that is afforded by the east coast of Malaya is that of the weather. From about October to March it is swept by the north-east monsoon (*Musim tutup kuala,* the season that closes the estuaries), which turns the whole of it into a lee shore and makes it almost impossible to get in and out of even the larger kualas under sail with safety and certainty. Between April and the end of September the steady wind is the south-west monsoon, and conditions are a great deal better, but unfortunately they are still not ideal over much of the period. From about July to the middle of September is the season of the Tĕnggara, a wind of varying strength which comes up rapidly from the south-east about noon, and usually drops shortly before sundown. It seldom reaches the strength of a Malacca-Straits Sumatra, but in the extremely shallow waters off the east coast it brings up a short, choppy sea very quickly, which again adds a hazard to the crossing of a kuala bar. In practice it means that the coasting boats usually keep well out from noon onwards, and try to make their landfalls before midday or at sundown. The advantages of being able to do this again set a premium on a detailed knowledge of local conditions, and of the capacities of one's boat, as we realised on several occasions. Thus, both the formation of the shore and the weather conditions combine to keep the coasting traffic in the hands of local men, for at least the greater part of the season. The boats that they use are described briefly here.

The easiest approach to a consideration of the sea-going carrying boats is to group them according to their sail plans. Such an arrangement is not, of course, possible in the case of the kuala and fishing boats, as these are normally limited to masts setting single square-sails. The rigs of the cargo boats, on the other hand, fall fairly easily into four groups. These are arranged below in order of their general importance in the local trade. When this is done it is immediately apparent that the greater part of the commerce is handled by locally compounded boats, of which the hulls are largely or completely on European lines, while the sail plan is partly Chinese and partly European in origin (the Pinas-Bedar group). The next most important section in Kelantan is afforded by the use of old fishing boats which are Peninsular in

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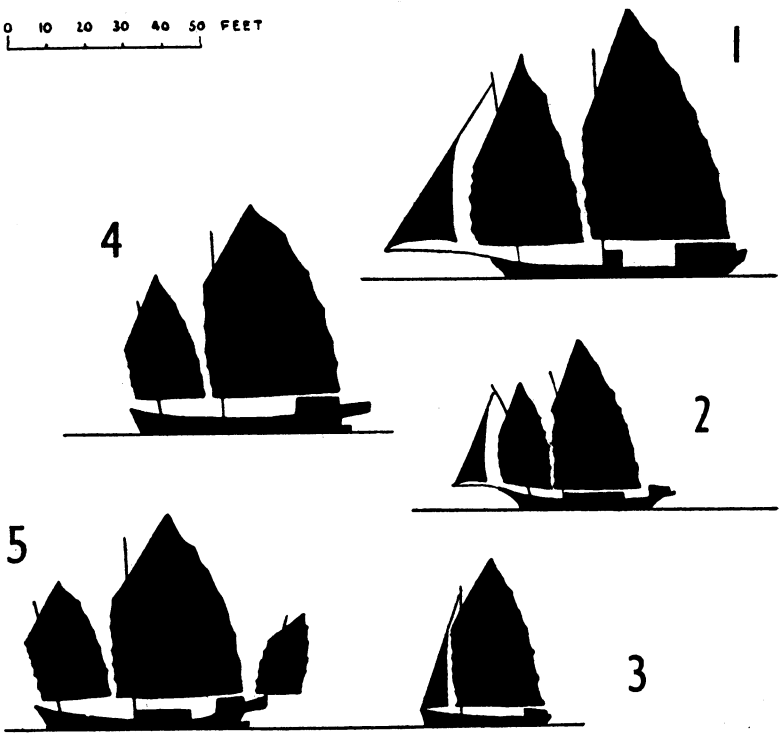
both hull and sail, while in the south the coast-wise carrying is done by Chinese-owned launches spreading up from Singapore. Finally occasional boats (the Singapore Trader or Tongkang and the Gulf of Siam Trader) which are ultimately Chinese in origin are found running between the larger rivers and ports outside our area.[1] It may be remarked in passing that this is in sharp contrast to the arrangement on the west coast of Malaya, where the designs of the carrying boats are apparently entirely extra-limital.

1. The Pinas-Bedar group

The Pinas of the east coast of Malaya is essentially a Trengganu boat, with its manufacture confined almost entirely to the kuala of the Trengganu river. It is the largest of the local craft,



Profiles of the major designs outlined in this paper, under full canvas. 1, a (Pĕrahu) Pinas Golok. 2, a medium-sized Bedar (Luang Sudu). 3, a Katar, off the delta of the Kelantan River. 4, a two-masted Singapore Trader or Tongkang. 5, a Gulf of Siam Trader or wangkang. Both nos. 4 & 5 generally step two masts in the smaller boats, and three in the larger ones.

1 No cognisance is taken of two boats which would seem to be genuine strays, not usually found north of Singapore. A Pĕrahu Lontok, from South Borneo, was seen at Dungun in 1947, and there is an old Pĕrahu Golek from Madura, beached on the tanjong at Kuala Trengganu at the present time.

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and is normally used only between the deeper estuaries and distant ports. The Bedar, as defined here, occurs widely from Mersing north to the Siamese frontier at least, but it would seem that by far the greater part of the building is done along the length of the Trengganu coast. The larger Bedars run on much the same routes as the Pinas, but the majority of the boats are appreciably smaller, with a stem to stern length of 30-35 feet. These are used extensively in coastwise traffic, and at least one or two can usually be found in any kuala.

Both Pinas and Bedar are built and manned, but not always owned, by Malays. The hull shapes vary considerably, but the sail plan is constant, except in the case of the Kelantan Katar which is noted below. The remainder all carry two masts, one in the bows, and the other about amidships, the forward of which is markedly raked forwards, and the main usually slightly so. They have very long bowsprits, which are normally stayed so that the tip curves slightly downwards. The driving area is composed of two large polygonal lug sails, one to each mast, and of typical Chinese design. They are generally made of mats of tikars, and are strengthened by cross ribs of bamboo, like the sails of a junk. They are suspended from the mid-point of the yard, but as the luff of the sail, which is nearly straight, is only about half the length of the leach, which is markedly convex, the yard itself makes an angle of about 15^0 - 20^0 with the vertical when the sail is set. Normally the foresail is set on the port side of its mast, and the mainsail on the starboard side. In addition, under suitable conditions a jib, often of patched canvas, is set from the forward end of the bowsprit. In all cases they are steered with a European rudder and tiller.

These boats sail as far as possible with the wind on the quarter or forward to just aft of the beam. In the former case they carry the mainsail and jib out to leeward, and the forward sail to windward. With the wind on, or forward of, the beam they set all three sails to leeward. They cannot sail close into the wind owing to their relatively shallow draught, but in virtue of the jib they run much nearer to it than the majority of the local boats, especially when entering the estuaries. The jib, in fact, though much the smallest of the sails in area, is the most important single element in the plan, and when manoeuvering they not infrequently drop the foresail and run on the jib and mainsail only. If it is set, it is, of course, a diagnostic feature. Unfortunately if the wind is dead aft the men often reef the jib, and then when hull down their boat can be mistaken for a two-masted junk.

(Pĕrahu) Pinas

This boat (plate 9, fig. 2) and the next (plate 9, fig. 1) are in most respects very similar, and they are frequently lumped

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together under the name of Trengganu Schooner.[1] Above water the hulls of both are characterised by the possession of well moulded clipper sterns. As has been said earlier they are fairly large boats, and fully laden they can enter only the deeper estuaries. At the present time they are employed mostly on runs between Kuala Trengganu and Bangkok, nominally going north in ballast and bringing back salt. They are said to make about three trips a year during the season of the south-west monsoon. They also occasionally run to Singapore and Saigon, but they seldom visit the other kualas on the east coast. They are normally worked with a complement of 5-7 men, including the master. The great majority, at least, are built at Kuala Trengganu. I have not seen them under construction anywhere else, but I have been told that a shipwright from Trengganu is now working at Kampong Balok, in northern Pahang. Building usually takes about 10 months, with a gang of 20 men.

The Pinas has a reasonable amount of sheer, and it is a good sea boat. The present pattern has also a well raked bow, terminating in an upturned wooden beak of standard form ("her slender nose Tip-tilted like the petal of a flower,"[2]), representing a stylised copy of the figure-heads of the old European sailing ships. On the other hand the hull is almost wall-sided, with a very full turn of the bilge fore and aft. The maximum beam is normally about a quarter of the length from stem to stern, and the depth at the midpoint nearly one-ninth. In general they have a good carrying capacity, but are slow in the water, with a maximum speed under normal conditions of 5-6 knots. The great majority are between 60 and 70 feet long, with a breadth of 15-17 feet, and a depth of 7-8 feet. Their draught is a little over 4½ feet when empty, and nearly 6½ feet when fully laden. Two examples registered at Kuala Trengganu have the following hull measurements.

Reg. No.	Stem to Stern	Beam	Depth	Capacity in Piculs.	Built
70	63′	16′	7′	1,230	1900
256	68′	17′	7½′	1,047	1930

As in all the larger boats in this group, the main and fore sails are of mats: they are strengthened by 6-7 bamboo ribs. The jib is usually of gunny sacks or canvas. The total area of sail set in a boat of about 65 feet from stem to stern is approximately 2,725 square feet; jib 275 square feet, foresail 1,100 square feet, and mainsail 1,350 square feet.

1 Strictly speaking, of course, if a European name is to be applied to these boats they should be called Luggers. The Bugis Palari is the only schooner-rigged boat seen regularly in Malayan waters.

2 Idylls of the King, 1859, line 577.

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The Pinas has a planked deck, with two covered hatches to the hold. It is steered by a rudder, operated from a tiller swinging about 6 inches above the deck and partly damped by a system of pulleys. The steerman usually sits on the planking, and manipulates the rudder by forcing the end of the tiller, away from him with his feet, or drawing it towards him by the slack rope of the pulley system on his side. There is invariably a large coop (Malay, *kup*), made of matting strengthened on the outside by close-set, longitudinal strips of bamboo, at the after end of the deck. This affords shelter to the man at the tiller, and *inter-alia* the greater part of the rest of the crew. Behind it, hanging over the stern and detracting considerably from the general appearance of the boat, is a wooden box to serve as a lavatory. The hull is usually painted white or dull red.

The hull of the Pinas is undoubtedly based on European designs of the early nineteenth century or later, and might well be a reproduction in miniature of the East Indiamen of circa 1820-1860. According to the local tradition it is copied from boats built by a member of the crew of a French frigate which was wrecked on the Trengganu coast some 70-80 years ago. All the survivors except one eventually left the state. The one became a Mohammedan, married a Chinese girl from Kuala Marang, and settled on the Tanjong at Kuala Trengganu to earn his living as a shipwright. The names and number of his children are not given, but some at least are said to have used the patronymic *bin Franchis*. It is claimed that two of his known descendants, possibly grandsons, lived until comparatively recently, one Mat bin Franchis of Kemaman, dying only a few years ago. They were characterised by being rather taller and broader than the average Malays, with lighter hair and blue eyes.

Pinas, of which the local pronunciation approaches more nearly to *penis*, is obviously a corruption of the French *pinasse*, a small, usually two-masted sailing vessel, and the origin of the English word *pinnace*, a man-of-war's ferrying boat. Pĕrahu is, of course, optional, and is frequently omitted.[1] These boats are also sometimes called (Pĕrahu) Pinas Golok, to distinguish them from the next. *Golok*, from the Malay word for a matchet or sword with a convex cutting edge, refers to the curved, upturned prow.

(Pĕrahu) Pinas Dogar

In general this boat (Plate 9, fig. 1) differs from the preceding one only in having a vertical bow with no beak. It is

1 According to Wilkinson (1932/2: 249) *Pĕrahu* is used for any undecked native vessel in contrast to the decked *Kapal*. This does not apply in current usage, which pays no attention to the presence or absence of a deck, and applies it to any large locally built boat, though in the obviously large boats, as here and in the (*Pĕrahu*) *Payang*, it is often dropped.

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sometimes more squat in its general lines (No. 282, built at Kuala Trengganu in 1946, is 69 feet from stem to stern, 7 feet deep and 18 feet beam, with a capacity of 1,343 piculs), and may carry less sheer, but this is not a standard distinction. To the Malays the only characteristic of importance is the finish of the forward end. At least one of these boats, Chinese owned but with a Malay crew, is at present running regularly from Singapore.

The origin and history of these boats is obviously much the same as that of the Pinas Golok. The hull, it may be remarked in passing, is very similar to that of the Bangkok Lorcha, but the latter has a typical junk sail-plan, with no bowsprit. The term Dogar (usually pronounced *Dogor* in Kuala Trengganu) does not appear in Warington Smyth, who lists only the Pinas in general and I cannot trace it or a word from which it might have originated, in any of the standard Malay dictionaries. So far as I know it is used only for this boat, or sometimes for a sheer-ended Bedar (Katar) to distinguish it from those with projecting prows.

Bedar (Luang Sudu)

The boats grouped under the name Bedar (usually pronounced *Bedor* in Trengganu) do not allow of an easy definition. There is a typical pattern which is highly characteristic, and is the version seen most frequently, but the name is also given to other rather different designs. Roughly one finds, therefore, that among carrying boats on the east coast the term Bedar is applied to any boat setting one or two Chinese junk sails and a European jib, and lacking the clipper stern characteristic of the (Pĕrahu) Pinas.

The typical cargo Bedar has a rig similar to that of the Trengganu Pinas. The hull, on the other hand, is equal-ended, not unlike that of a modern ship's lifeboat, but rather fuller in the turn of the bilge, and with the stem and stern raked. The bow is carried up to a flat round beak, which is reproduced again in miniature at the stern. In this respect, therefore, they closely resemble an enlarged version of the small fishing boat, or kuala ferry boat, also known as Bedar, or Anak Bedar. This latter boat is widespread and popular on the east coast from southern Trengganu to southern Kelantan. It would seem that the pattern of the projecting ends is probably derived, by elongation and refinement, from those on the dug-out or Jalur. It is possible that these in turn are a rendering in solid wood of the ends that would naturally be formed if a boat were made by tying sheaves of rushes together. In no case in the wooden boats has it any functional value, and in the small fishing boats it would seem to have certain disadvantages in a heavy sea.

The Bedar almost invariably has a square-ended lattice or decked projection over the stern, known as the *dandan*, which is

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covered by a matting coop, similar to that in the Pinas. Here again it is used by the crew as their living quarters, and as a shelter for the steersman. The larger Bedars, which usually reach stem to stern lengths of 45 to 60 feet, are invariably decked. In some the *dandan* is a very stout structure, with an open balustraded gallery aft of the cabin. The smaller ones (Plate 10, fig. 2), which represent by far the greater number of these boats, have the deck restricted to the ends, and the intervening space covered by a long *kup*. In association with this the latter boats have the main mast stepped further forward, sometimes as little as one-third of the hull length from the bow, and carry relatively more sail on it, and less on the foremast.

The length of the projecting prow, and the whole cut of the bow, show considerable variation. In some of the boats the prow is long with a fine slanting bow. In others it is much shorter, and the bow is almost vertical. In all cases, however, where there is a projection the boat can be known as Bedar Luang Sudu (from *Sudu,* a spoon, and even more aptly *Sudu itek,* a duck's bill). To some extent the sheer varies with the length of the prow, small boats with relatively long forward beaks having the most sheer, and large one with short beaks the least, but the association is not rigid. Local shipwrights do not work to set lines, but build solely by eye and experience. Some of the older men, when constructing fishing boats at least, keep astonishingly close to the same measurements over a long succession of boats, but there is often a marked difference in flair or fullness between the output of two builders working in the same kampong.

The dimensions of the larger and medium-sized Bedars are deceptive when compared with those of the Pinas. Two examples registered at Kuala Trengganu run as follows,

Reg. No.	Stem to Stern	Beam	Depth	Capacity in Piculs.	Built
259	44′	12′	5½′	418	1936
260	40′	11′	5′	318	1937

These figures suggest a slightly greater beam and depth, but the former applies only to the maximum breadth. In actual fact these boats lack the very full turn of the bilge of the Pinas, and taper more gradually at both ends. As a result, though their cargo capacity is relatively much smaller, they are appreciably faster, and under favourable conditions run at 6-7 knots. They normally carry one man for each 10 feet or so of hull length.

The smaller Bedars, of 30 to 35 feet from stem to stern, are less beamy, with a relatively greater draught. They also carry more sheer, and have a more marked downward curve to the bow-

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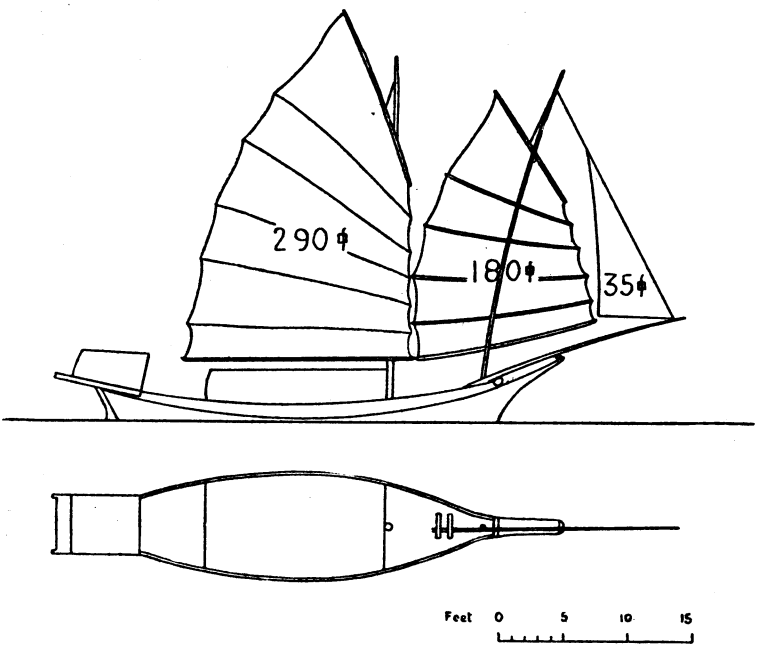
sprit and forward rake to the masts. Again one or both of the driving sails may be of coarse canvas or sacking. The hull is generally painted white, green or dull red. Some of these boats, with a total sail area of about 500 square feet to a length along the water line of 30 feet, habitually make 8 knots in good sailing weather, and appear almost sprightly with a reasonable wind and a moderate sea.



Profile and deck plan of a small Bedar (Luang Sudu). Larger boats carry less sheer, and have the foresail more nearly the same area as the mainsail. They also lack the long *kup* over the hold.

Bedar, or Bidar, was originally applied to a galley or long boat wioh sharp bows and a narrow beam. Warington Smyth (1902: 577) cites it only as a boat propelled by oars, and carrying a crew of three, though he quotes Klinkert as saying that it was also used for a small, single-masted sailing boat (presumably the present Anak Bedar). He attributes the name to an unspecified word descriptive of the stemhead or beak. Wilkinson (1932/1: 137) gives *bidok* as associated with draught in boats, and cites a connection with the Pĕrahu Bĕlongkang, a Jalur or river dug-out with extra side-planks to enable it to carry cargo. There would certainly seem to be an affinity with the Jalur in the finish of the stem and stern, and this may well be the origin of the use of the term here. In addition the Bedar has a relatively greater draught than any of the other locally built cargo boats.

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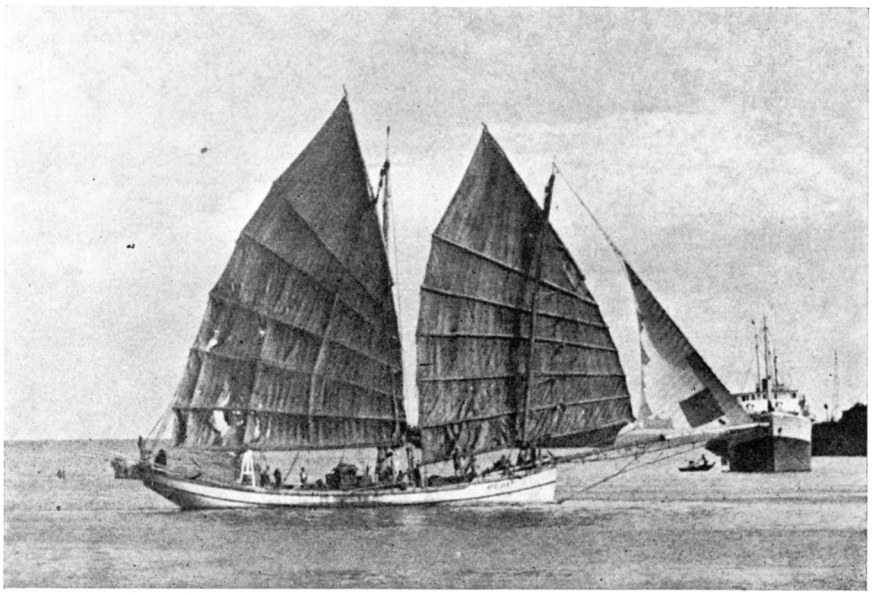
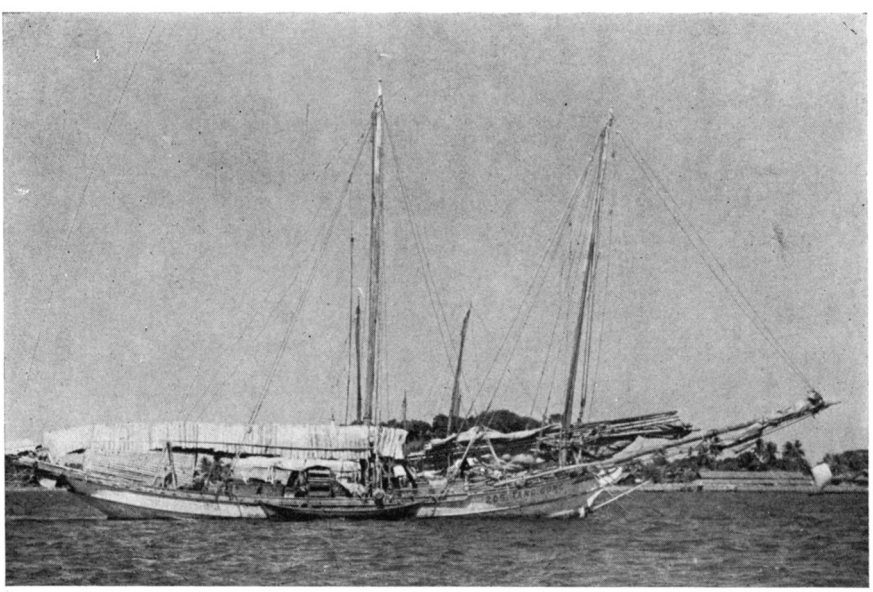


A (Pĕrahu) Pinas Dogar entering Singapore Roads under full canvas.



A (Pĕrahu) Pinas Golok lying at anchor, fuly laden, in the estuary at Kuala Trengganu.

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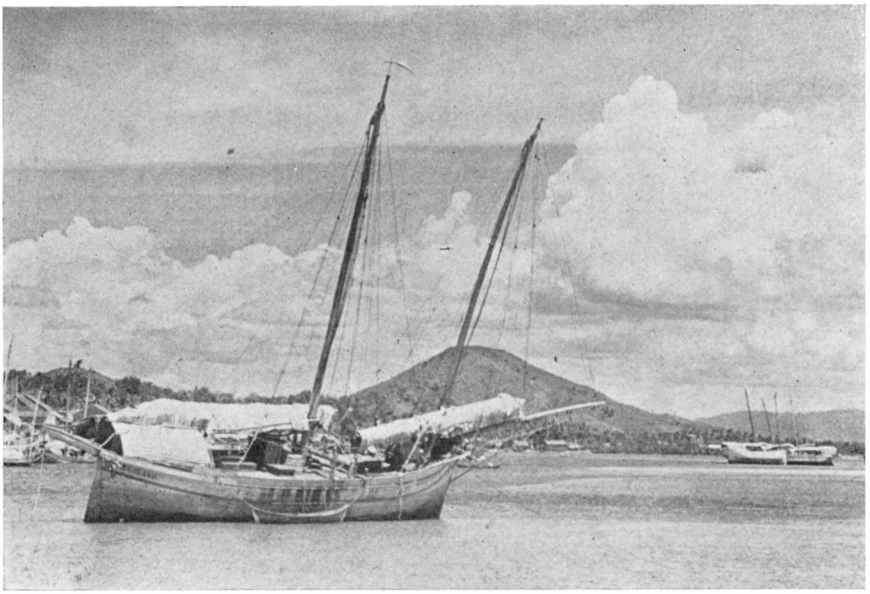

A Bedar (Luang Katar) lying beached in shallow water, at low tide, in the estuary at Kuala Trengganu.

A Bedar (Luang Sudu) sailing under fore and main sails as it enters a Trengganu kuala.

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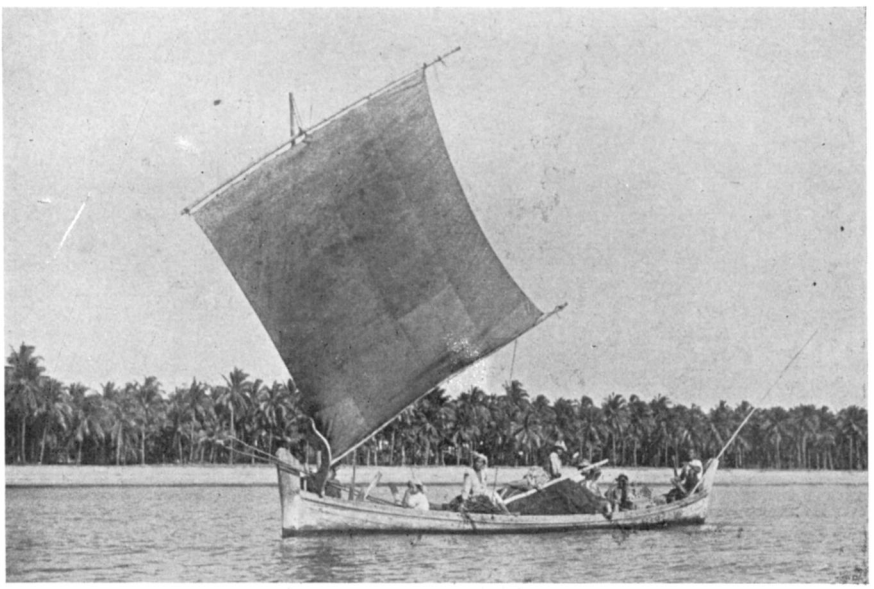

A Pĕrahu Buatan Barat, with the ends truncated, being used as a cargo carrying boat off the Kelantan coast.

The stern half of a small Bedar (Luang Sudu) lying in the river at Kampong Sĕtiu, on the Trengganu coast.

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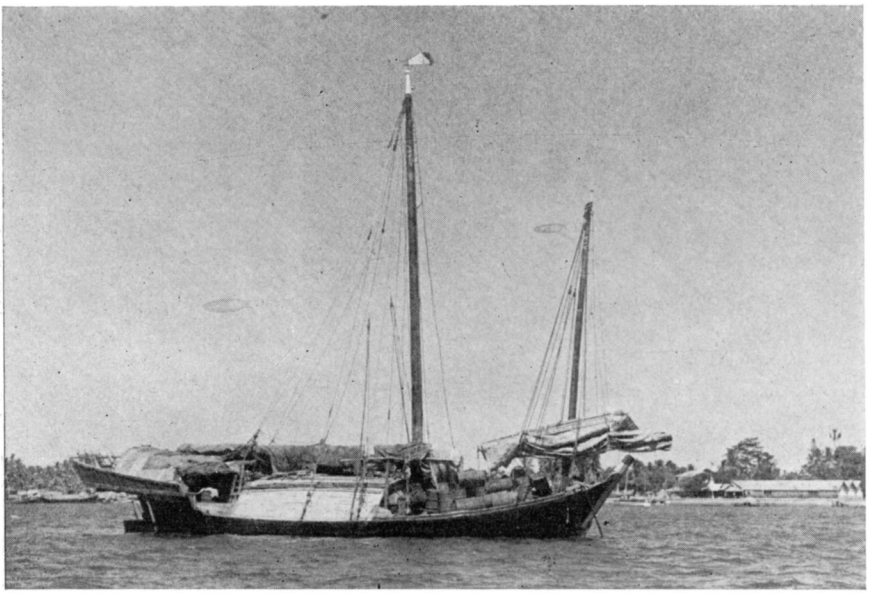
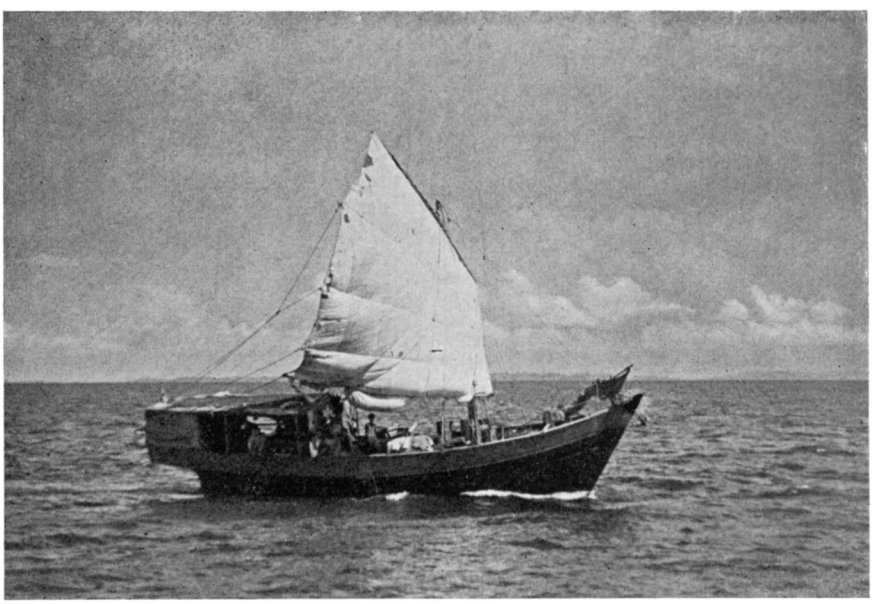


A Gulf of Siam Trader or Wangkang lying fully laden in the estuary at Kuala Trengganu.



A Chinese motor launch under auxillary sail, at the eastern end of the Singapore Strait.

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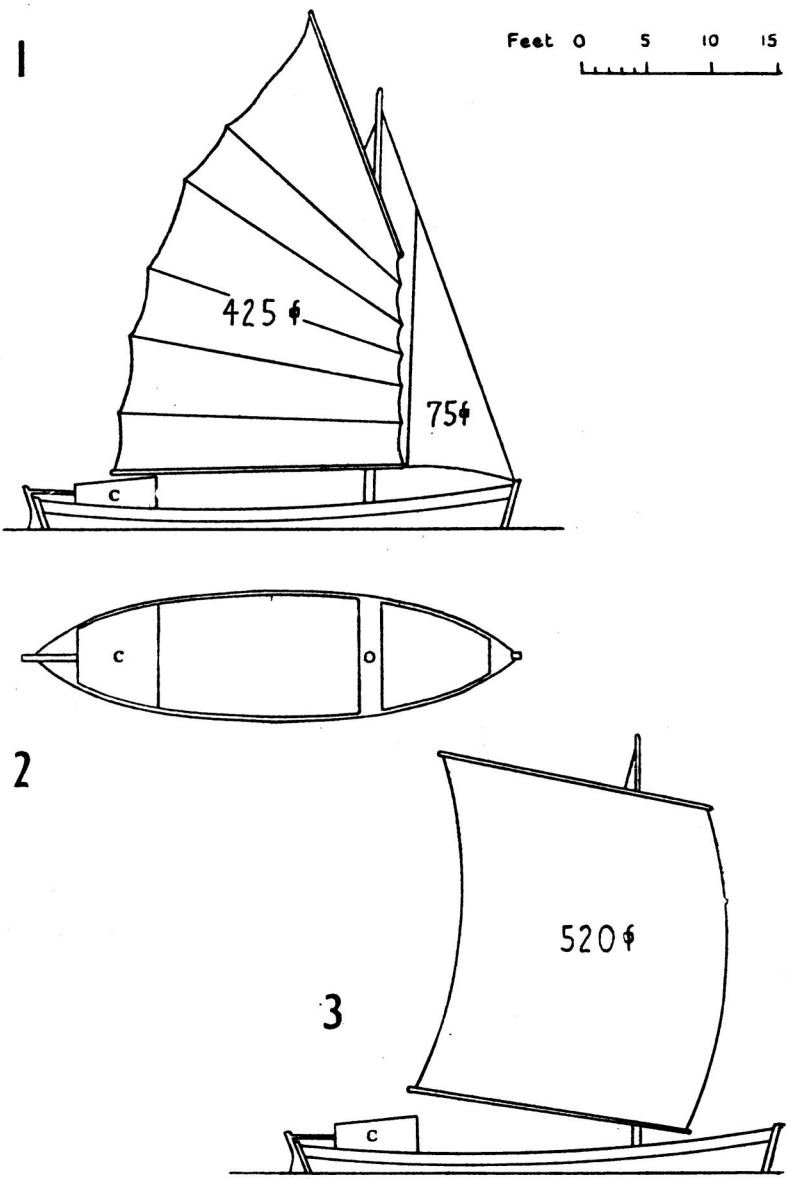
Bedar (Luang Katar) or **Katar**

In Trengganu this boat (Plate 10. fig. 1) is merely a variant of the cargo Bedar, as the first name given above suggests. It is



The Kelantan coast Katar. 1, profile with the customary sail-plan. 2, deck plan. 3, profile setting a single square-sail. In all cases "c" is the cabin or *kup*.

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appreciably less numerous than the more typical forms, though one invariably sees several in the estuary of the main river. It would seem to be built only in lengths of about 45-55 feet. The lines follow the ship's lifeboat pattern, but they are generally rather fuller than those of the Bedar Luang Sudu, with less sheer. The diagnostic feature is the finish of the stem and stern, both of which lack the projecting beak. The bow is straight and very nearly plumb, while the stern is kanted to an angle of 15^0 or less, instead of 20^0-25^0. The finish, including the *dandan,* follows that of the typical Bedar. It is doubtful if these can be regarded as very successful boats. They are heavier in the water, and slower, without any great increase in cargo capacity. As their size suggests they are used only between the larger kualas. At different times I have seen them in the estuaries of the Pahang, Kuantan, Kemaman, Dungun, Trengganu and Besut Rivers, but not elsewhere along the coast. They also reach Singapore.

In the extreme north of our area, in the delta of the Kelantan River and at Tumpat, one finds a slightly different boat to which the name Katar is also given. The resemblance in the hull is obvious, though here it is rather beamier, with fuller bilges, less draught, and little sheer. The distinctive feature is that the Kelantan Katar has a modified sail plan, and usually no *dandan.* These boats have no bowsprit, and only one stout mast, stepped fairly well forward. They are set with a fore and aft rig, consisting of a canvas or gunny sack jib and a large lug mainsail, of the usual Chinese pattern, or with a single, large square-sail, like the fishing boats; the latter is obviously a favoured sail-plan in these waters, as one occasionally sees a Bedar Luang Sudu with two square-sails and no jib off the Kelantan coast. Normally they have a *kup* in the manner of the typical Bedar, but it does not project beyond the stern of the boat. Their total length generally lies between 35 and 40 feet, and they are managed with a crew of 3 men. Though there is never a projecting beak, the set of the stem and stern varies rather more than it does in the Trengganu sailing Katar. Boats with well-raked ends are usually used for carrying sand, and may accordingly be known as Bedar (or Katar) Pasir. Others with almost vertical stems are used for more general cargoes; sometimes in this case they are given the special name of Haribut (from the English, *Ferry boat*). In the lagoon at Tumpat, and in the Kelantan River itself, these hulls are often employed as lighters, without sails and drawn by motor launches. Then the general cargo boat is termed a Bedar Tunda (Malay *tunda,* drawn or following in the wake, being towed).

Katar is undoubtedly derived from Cutter, though these boats have much coarser and heavier lines than the English boat. The Kelantan version even retains in some examples an approximation

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to the fore and aft cutter rig, though the usual gaff-mainsail has been replaced by a Chinese lug. In Trengganu, on the other hand, the boats have only a gross version of the hull lines. It would seem likely that the northern boats represent the earlier pattern, and are the ones to which the name Katar alone was originally given. Their inclusion in the Bedar group has probably come about later from the similarity of their function, the absence of the clipper stern, and the subsequent adoption of the straight stem by some of the Trengganu builders. Warington Smyth (1902: 578) merely gives the Katar as a boat built of jati (= teak, *Tectona grandis* Linn.), "said to be one-masted", and quotes dimensions for the hull, 180 feet by 21 feet by 9 feet, with 4 feet freeboard and a 90 foot mast, which are clearly impossible. He himself expresses some doubts about the sailing qualities of such a boat if it were made with local materials: it would be surprising if it could be sailed made with any standard materials.

2. Adapted Fishing Boats

The fishing boats used on the east coast of Malaya range in length from 15 to nearly 45 feet, and exhibit a considerable variation in design and finish. In all cases, however, they have one or two masts stepped well forward, and setting single squaresails. Except for two, the Sĕkotchi and the Gĕlibat, they are steered by a paddle on the lee quarter. As far as possible they sail with a following wind, or at least with the wind aft the beam. Increasing difficulties are experienced if their course takes them further into it, and the crew usually reef the sail and propel the boat by paddles.

Any of the large fishing boats may occasionally be used for carrying cargoes along the coast, but their capacity is small and, on the whole, in the southern part of our area this is a rare occurrence. In northern Trengganu and Kelantan, especially between Sabak and Tumpat, on the other hand, it is not uncommon. For the most part one of two patterns are used, the Pĕrahu Buatan Barat or occasionally the Pĕrahu Payang, and the Kolek Ma' Siam or Jo'kong.

Pĕrahu Buatan Barat

The Pĕrahu Buatan Barat is essentially a fishing boat, built principally for use in deep water with the larger nets. The bigger examples have a length of about 35 feet, with a beam of 6 feet, and a depth of about 30 inches amidships. The stem and stern are normally prolonged vertically upwards to a height of 5-6 feet. but these projections are usually cut off in old boats habitually employed for carrying purposes (Plate 11, fig. 1). They have two masts, one about 4 feet back from the bows, and one 12-13 feet back. One or two squaresails of canvas or sacking are set, according to the strength and direction of the wind. They are undecked, and have less than 10 inches freeboard when fully laden.

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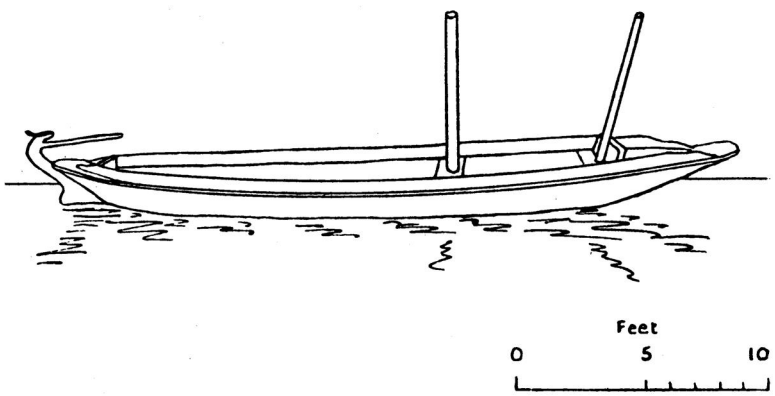
Accordingly they are generally used for cargo only in light winds, or in sheltered water. On these occasions they are habitually grossly under-canvased, and as a result normally drift along at a speed of 2-3 knots. The design of the Pĕrahu Buatan Barat is believed to have spread down from the coast of Patani; in actual fact this lies north-west of Kelantan, but locally it is always spoken of as west of it.

The Pĕrahu Payang has much the same lines as the Buatan Barat, but it is generally rather larger, ranging from 33-44 feet in length, with a beam of about 7 feet in the bigger boats. It is used mostly from estuaries, for work in deep water with the Pukat Payang; it is scarce on the Kelantan coast, but one occasionally sees old boats being used for cargo work between the rivers, in the manner of the Buatan Barat.

Kolek Ma' Siam

This is another fishing boat which appears to have reached Kelantan from the Siam Malay States. It has a wide range of size, and for distinction the larger examples are often referred to as Jo'kong.[1] These boats are seldom seen south of the Kelantan River. They are narrower and crankier than the Pĕrahu Buatan



Hull of a Kolek Ma' Siam or Jo'kong. The name Kolek Ma' Siam is also applied to another smaller Kelantan-Patani boat, the Dogol, which is used almost entirely for fishing. It carries more sheer, has the ends closed, and is generally steered with a paddle.

Barat with a maximum length of about 30 feet, beam 4½ feet and depth amidships 2½ feet. The larger boats have a freeboard of 8-10 inches when fully laden. Like the Buatan Barat they are undecked, and can only be used for cargo in sheltered or calm

[1] Jo'kong, from Jongkong, a dug-out canoe. The word can be used for any undecked boat without built-up ends, and is also the normal term for the small dinghy carried on the big Pĕrahu Payang or the Pĕrahu Buatan Barat.

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waters. They are, however, rather faster, and are employed to bring the catch in from the fishing stakes off Tumpat, as well as for coastal communication in this area.

3. Motor Launches

The greater part of the carrying in the waters off the east side of Johore, and on the Pahang coast as far north as Kuala Rompin, is done by Chinese owned and built motor launches. There are now a large number of fishing stakes in this area, from the islands of the Johore Archipelago north to the Duchong Islands, between Endau and the Pontian River, and in all cases the catch is brought to the mainland by these boats. For the most part it is carried on the launches themselves, but in the Pulau Tinggi group it is usually loaded on smaller boats which are towed in to Mersing. These have much the same lines as a Sampan, but they lack the backward projections of the sides, and thus bear a considerable resemblance to the Norwegian Pram.

The motor launches (Plate 12, fig. 2) represent a relatively recent development on this coast, though the design has been in Singapore for some time, and similar boats were used before the war by the Japanese for fishing from the island. They have a sharp-ended, well raked bow, and a square stern, which is nearly as broad as the midship section. They are almost wall-sided, with a hard chine and a nearly flat bottom. The forepart is used for cargo, with the engine aft of the beam, and the crew's quarters behind it, projecting back over the stern. In addition they often carry a single mast, on which a Chinese lug sail, and sometimes also a jib, may be set in an emergency, or to save fuel. The hulls are generally painted black or dull green, with the superstructure, if painted, black; but probably this only indicates the cheapest colours available at the present time. They are mostly 30-45 feet in length, with a maximum breadth of 6½-10 feet, and a draught of 2½-4 feet. Under favourable conditions their speed would seem to be about 6-7 knots.

4. Chinese Sailing Boats

Boats of Chinese design and build are not common on the east coast of Malaya, but one or two can usually be seen in the estuaries of the Kelantan and Trengganu Rivers, and occasionally at Kemaman and Kuantan. They are generally biggish boats, with lengths from 50-90 feet, and engaged on long distance carriage from Siam, Saigon, Tongking, or Hongkong. Only two kinds, the so-called Tongkang and the Gulf of Siam Trader are normally met with in our area, in spite of the popularity of Chinese boats in the Straits of Malacca and the fairly large number of different designs that can be seen in Singapore. Both have two or three dipping lugsails, of the usual Chinese pattern, and no bowsprit. The foremast, which is raked markedly forwards, is stepped well up in the

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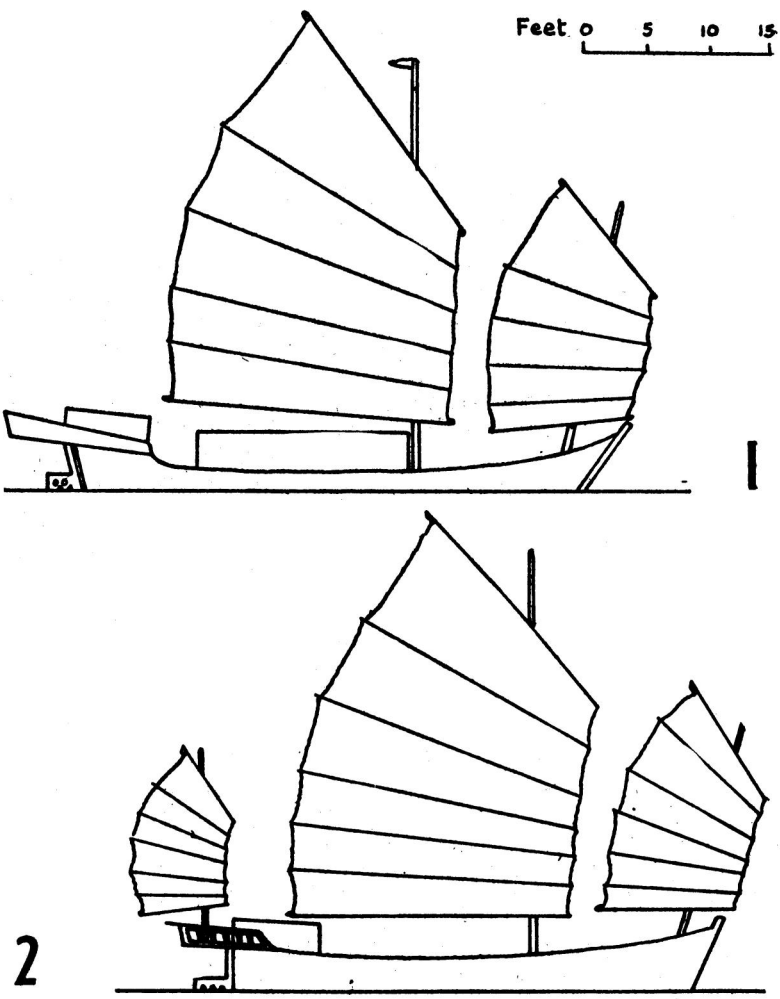
bows, the main mast, which is almost vertical, amidships and the mizzen, which is much the smallest, far back over the stern. The last is discarded in the smaller boats, and then when hull down they resemble a Pinas or Bedar with the jib reefed, except that in the Chinese boats the foremast is appreciably shorter than the main. The hulls are decked, with hatches to the hold fore and aft of the main mast. They are steered by means of a large, heavy rudder, which is usually pierced by a series of diamond-



Profiles of medium-sized examples of (1) the Gulf of Siam Trader or Wangkang and (2) the Singapore Trader or Tongkang. Both are shown fully laden. The mizzen is a variable feature, and may be seen on many of the larger boats in either group.

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shaped holes. They normally set a course with the wind on the quarter or forward to the beam, and in spite of the position of foresail cannot get far up into it. They are sluggish, heavy boats, and seldom exceed 4-5 knots. A man walking briskly on the shore can almost keep pace with them.

Singapore Trader or **Tongkang**

The Singapore Trading Junk or Tongkang has a straight keel, with a pointed, well-raked bow. It is nearly wall-sided, with little flair, full bilges and a square-cut stern. From amidships aft to the stern the bottom is almost flat, with the chine rising slightly. The stern, and sometimes the bow, may be built up several feet, but the hull itself does not carry much sheer. Its general lines, therefore, are similar to those of the Chinese-built motor launches used on the southern part of the east coast and off Singapore. They undoubtedly have a good cargo capacity, but when driven only by sails they must be extremely slow and heavy to handle. There would, in fact, seem to be little hope for them if they ever get near to a lee shore, and they cannot be a sound design for use in this area, except in the short intervals between the north-east monsoon and the tĕnggara.

The Singapore Trader, like the motor launch, has a rectangular platform extending back over the stern, in this case nearly far enough to be square. There is generally a cabin of wood, or a matting coop, built over the forward part of it, which serves as a shelter for the steersman, and quarters for at least the greater part of the crew. Behind the cabin, and approached through it, is a clear gallery for the easy manipulation of the mizzen sail.

Although these boats are not satisfactory for work on the east coast, they are occasionally laid down at Kuala Trengganu and Chukai (Kemaman) for sale to Chinese ship-owners in Singapore. The dimensions of a fair-sized boat from the Trengganu yards are 110 feet from stem to stern, 29 feet beam, 7 feet draught, with 4 feet freeboard, and 73 tons register. During the recent war the Japanese attempted to build a large number of extremely clumsy, heavy hulls along these lines, but with almost plumb bows, wherever labour was available and timber could be floated down from the interior. The principal centres of this activity were Mersing, Pontian, Kuantan, Chukai and Kuala Trengganu, but a few keels were also laid down at about a dozen other kualas. Both wood and workmanship were of extremely poor quality, and on several occasions the builders excused themselves to me by saying that the boats would not have kept afloat for more than two or three years. Actually the great majority were destroyed by Allied bombing before they ever put to sea. A good instance of this can be seen at the mouth of the Kuantan River. The hulls were constructed near the town, on the north bank, and then

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floated across to the shallow water off Tanjong Lumpur for fitting out. As soon as a sufficient number had accumulated at the tanjong incendiary bombs were dropped on them. This no doubt saved the lives of the men who might have had to sail the boats, but unfortunately the abandoned or burnt-out hulks still litter this and many of the other river mouths. The timber is said to be valueless even as firewood, and at the present times it seems as if they will remain until they disintegrate naturally, a process which is taking rather longer on the mudbanks than it would have done in the open sea.

This boat is generally known locally as the Tongkang, but the word presents several difficulties. In Singapore it is also used for the broad, beamy lighters sailed with one or two Chinese lug-sails, and for the large timber-carrying ketches with standing gaffs and three head sails. It cannot even be regarded as a generic term for Chinese-built boats, as in Penang it is applied to the Tamil sailing lighters. Further it is almost certainly not a real Chinese word. The characters used for it are generally 舯 艚 , or occasionally 東 艚 . In both cases the first portion is merely an attempt to render the sound "tong". Either the word has been adopted fairly recently from a foreign language, or it comes from the original Hokkien colloquial dialect (itself not Chinese). Its meaning, like its source, seems to be obscure, and an attempt is being made here to abandon it on general principles. For the most part the Chinese do not have distinctive names for the various patterns of sea-going boats, though the sailors can sometimes say where any particular design is current. For the rest they refer to them as *Phang Ch'un* (Cantonese *Faam Shuen*), 帆 船 = sail ship. According to Worcester (1947: 31) *Ch'un* is the origin of the Javanese *Djong,* which the first Portuguese and Dutch merchants applied to any boats trading in these seas: from it came the Dutch *Jonk,* the Portuguese and Spanish *Junco,* the old French *Jonçque,* and the English *Junk.* This last is obviously not distinctive in source or application, except in so far as it infers a cargo-boat of Chinese origin. For the present I am using the English word Trader, qualified by the apparent point of origin of the boat, for all such boats with a reasonably characteristic hull design. In this case it does not seem possible to trace the hull back to any authentic pattern formerly or still in use on the shore of the South China Sea. It seems probable, in fact, that it is a crudity formulated in or around Singapore which is still the main building centre.

Gulf of Siam Trader

This is definitely a Chinese-built boat, of which a few examples visit our area, coming mostly at the end of the north-east monsoon, and remaining until the weather is due to break again. They are made along the east side of the Gulf, on the coast of

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eastern Siam, Cambodia and possibly Cochin-China. Poujade (1946: 257) gives a good illustration with the caption "Jonque des Chinois du golfe de Siam". They have appreciably better lines than the Singapore Trader, but even so they are heavy, slow boats, requiring at least a moderate wind force to keep them under way. Like the Tongkang they have almost straight keels, but they are less nearly wall-sided, while fore and aft the hull is equal-ended and tapers more gradually. The stem is well raked, and the pointed stern nearly plumb. They usually have at least as much sheer as the Pinas, and may carry appreciably more, but there is some variation on this point, as on the cant of the sides amidships. An interesting small feature is the presence of a cutwater, pierced with holes, projecting about 4 inches forward from the bow below the water-line.

The poop is generally raised several feet above the level of main deck, and from it a heavy rectangular, balustraded platform extends back beyond the stern, as in the Tongkang. It usually has a broad coop on it for the steersman, with a gallery behind it to give access to the mizzen sail. The main living quarters, are generally in a stout, long, wooden coop placed amidships, just behind the main mast, and running back to within a few feet of the raised poop. A projecting cross beam is fitted above the deck in the bows, over which the anchor rope passes. Quite often the sides of the hull are built up by a two-foot gunnel planking which runs out to the ends of the projecting beam, where it finishes. From a distance it gives these boats the appearance of having square-cut bows and sterns, like the majority of the North China boats. In the larger Gulf of Siam Traders the rudder is shipped in sockets and hung by a tackle, so that it can be adjusted for depth, or raised altogether if the boat is beached.

The Traders seen on the east coast of Malaya are generally about 55-65 feet from stem to stern, 14-16 feet beam and 5½-6 feet draught, with a freeboard, without the gunnel planking, when fully laden of about 2½ feet. The cargo capacity is in the region of 800-1000 piculs. One such boat, with a length of 55 feet, reached the Kemaman coast from China late in March 1948, on the tail of the north-east monsoon, with 109 persons on board who hoped to land unnoticed in Malaya.

The Gulf of Siam Trader is usually painted black with, if in good trim, the gunnel picked out in bright red. Some of the boats follow the practice common in Chinese waters of having a painted or wooden "eye" on each side of the bow. These point forwards, to enable it to pick up its landfalls, instead of downwards, as on the Chinese fishing Sampans, where the boat has to look for shoals of fish.

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The east coast Malays refer to this boat as *Pĕrahu Siam, Pĕrahu Ma' Siam* or *Wangkang Siam*. Wilkinson (1932/2: 645) gives *Wangkang* as a Malay word meaning a Chinese ocean-going junk, and *Wangkang Siam* as the term used in the Hikayat 'Abdu'llah for Siamese junks. It does not seem to be a Chinese word, and as in the case of *Tongkang* its origin is obscure. It is tempting to connect the two, but a consonant change of "T" to "W" is most unlikely. In addition the boatmen at Kuala Trengganu still know and use both terms, the one for the Singapore boats and the other for the Siamese ones. Here, as in the case of the Tongkang, it is recorded by its function and area of immediate origin.

Acknowledgements

I was considerably assisted in my search for information while in Trengganu in August 1948 by Mr. M. B. C. Frend, of the Customs' Service, Mr. Noel Rees, Director of Education, and Dr. E. H. Ross, State Medical Officer, and by my hosts, Mr. & Mrs. J. D. Hodgkinson. In Kota Bharu I received much useful information from 'Che Hussein b. Pandak Kamil, through Mr. J. A. Parker, both of the Customs' Service. Finally I am most grateful to Commander W. H. Walmsley for technical advice; and to Mr. G. W. Davies, M.C.S., for help with the Chinese names.

A Note on the Plates

Plate 9. fig. 1. A (Pĕrahu) Pinas Dogar, about 60 feet from stem to stern, entering Singapore roads under full canvas. This gives an indication of the set and spread of the sails with the wind on the beam.

Plate 9. fig. 2. A (Pĕrahu) Pinas Golok, about 65 feet from stem to stern, lying at anchor fully laden in the estuary at Kuala Trengganu. The picture shows the general lines of the hull above water, and the set of the masts.

Plate 10, fig. 1. A Bedar (Luang Katar), about 55 feet from stem to stern, lying in shallow water, at low tide, in the estuary at Kuala Trengganu. This picture shows the finish, and to some extent the general lines, of the hull. On the right, in the middle distance, are two Pĕrahu Pinas, left high and dry by the tide.

Plate 10, fig. 2. A Bedar (Luang Sudu), about 35 feet from stem to stern, sailing under fore and main sail as it enters a Trengganu kuala. The picture shows the long coop amidships which covers the hold in the smaller Bedars.

Plate 11, fig. 1. A Pĕrahu Buatan Barat, about 35 feet from stem to stern, with the high ends truncated, being used as a cargo carrying boat off the Kelantan coast. She is drifting along under her foresail, the smaller of the two sails, only.

Plate 11, fig. 2. The stern half of a small Bedar (Luang Sudu), about 28 feet from stem to stern, lying in the river at Kampong Sĕtiu, on the Trengganu coast. The picture shows the *dandan* and stern *kup* to the right, and part of the long kup over the hold to the left.

Plate 12, fig. 1. A Gulf of Siam Trader, length about 60 feet from stem to stern, lying fully laden in the estuary at Kuala Trengganu. This boat is temporarily without its mizzen mast. A comparison with the Pinas Golok,

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on Plate 9, fig. 2, shows the slightly greater thickness of the spars in the Chinese boats. The forward cabin, between main and mizzen masts should be noted; so also the large heavy stern gallery, and the cable for raising the rudder.

Plate 12, fig. 2. A Chinese motor launch under auxillary sail, photographed at the eastern end of the Singapore Strait.

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Summary

This paper gives a short account of the cargo carrying boats found on the east coast of the Malay Peninsula, north to the Siamese frontier. It is based on information obtained in visits to this area in July 1940, June 1947 and July-August 1948. The most important boats in the local trade are those of the Pinas-Bedar group, which have hulls of basically European design, and carry a rig of two Chinese dipping-lug sails, and a European jib. The centre of their manufacture is in Trengganu. The paper also gives a brief outline of the other carrying boats occurring in this area, including the two three-masted luggers of Chinese design most likely to be seen there.

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